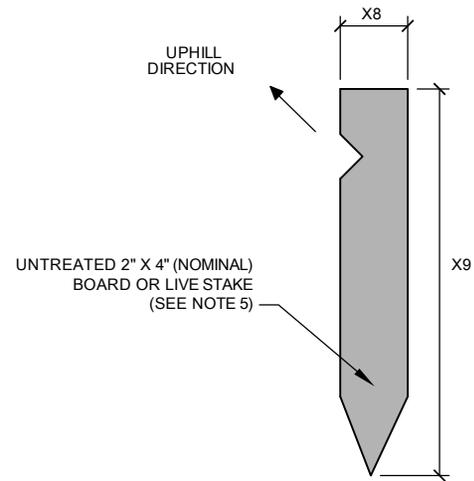
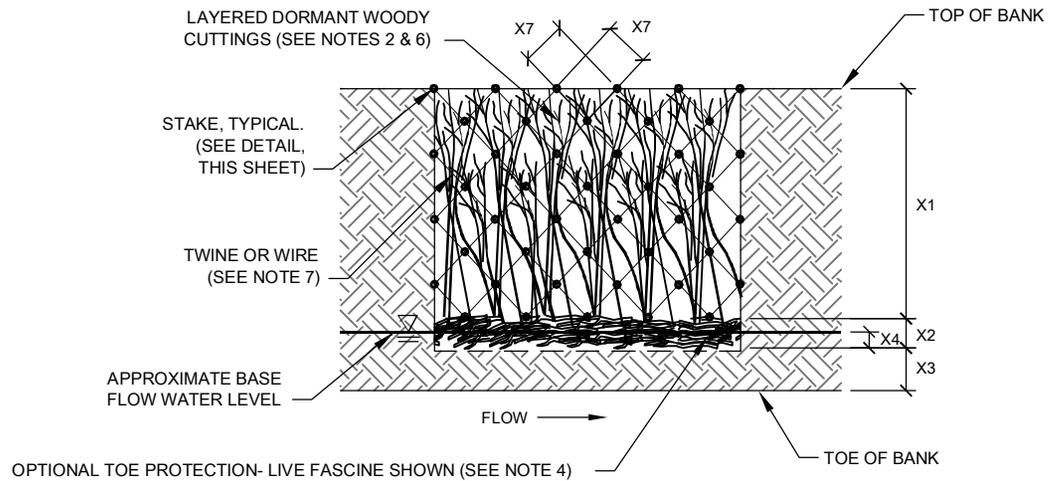


CROSS-SECTION



STAKE DETAIL



PLAN VIEW  
(SEE NOTE 9)

THIS FIGURE IS ONLY MEANT TO DEFINE THE MINIMUM INFORMATION REQUIRED BY THE CITY OF CHARLOTTE TO BE INCLUDED IN A DETAIL FOR THIS TYPE OF TECHNIQUE. THIS FIGURE IS NOT MEANT TO REPRESENT A STANDARD DESIGN METHOD FOR THIS TYPE OF TECHNIQUE AND SHALL NOT BE USED AS SUCH.

**NOT TO SCALE**



CHARLOTTE-MECKLENBURG  
STORM WATER SERVICES  
GENERIC DETAIL REQUIREMENTS

## BRUSH MATTRESS

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**DIMENSIONS (VALUES TO BE PROVIDED BY DESIGNER)**

VARIABLE	VALUES	TYPICAL UNITS	DESCRIPTION
X1		IN. OR FT.	HEIGHT OF BRUSH MATTRESS
X2		IN. OR FT.	HEIGHT OF OPTIONAL TOE PROTECTION
X3		IN. OR FT.	BRUSH MATTRESS/OPTIONAL TOE PROTECTION RELATIONSHIP TO TOE OF BANK
X4		IN. OR FT.	BRUSH MATTRESS/OPTIONAL TOE PROTECTION RELATIONSHIP TO APPROXIMATE BASE FLOW WATER LEVEL
X5		IN.	BRUSH MATTRESS THICKNESS
X6		NONE	BANK SLOPE RATIO (HORIZONTAL COMPONENT)
X7		IN. OR FT.	STAKE O.C. SPACING
X8		IN. OR FT.	STAKE WIDTH
X9		IN. OR FT.	STAKE LENGTH



PHOTO: BRUSH MATTRESS ON STREAM BANK

**NOTES:**

- BRUSH MATTRESS SHALL BE INSTALLED OVER GRADED AND PREPARED (ROTO-TILLED, RAKED, AND AMENDED) STREAM BANKS AS SPECIFIED BY THE DESIGNER.
- BRUSH MATTRESS SHALL BE MADE FROM LIVE DORMANT CUTTINGS FROM WOODY PLANT SPECIES (TREES AND SHRUBS) SPECIFIED BY THE DESIGNER. THE CUTTINGS SHALL BE OF A SPECIFIED LENGTH AND DIAMETER, APPROPRIATELY SIZED ACCORDING TO THE HEIGHT OF THE CHANNEL BANKS. CUTTING SPECIES AND SIZE INFORMATION SHALL BE SHOWN IN A TABLE ON THIS DETAIL OR ELSEWHERE IN THE PLANS (E.G. - A PLANTING PLAN) AND INCORPORATED INTO THIS DETAIL BY REFERENCE.
- IF BRUSH MATTRESS IS USED AS A SURFACE TREATMENT ON A BANK SCOUR REPAIR, THE DESIGNER SHALL SPECIFY MATERIALS/METHODS FOR INSTALLATION AND COMPACTING BACKFILL INTO THE SCOUR PRIOR TO INSTALLING THE BRUSH MATTRESS. THE COMPACTED BACKFILL SHALL BE PLACED SO THAT ENOUGH ROOM IS LEFT FOR THE MINIMUM THICKNESS OF CUTTINGS SPECIFIED TO BE PLACED, COMPRESSED, AND BACKFILLED, LEAVING THE SURFACE OF THE FINISHED BRUSH MATTRESS EVEN WITH THE SURROUNDING STREAM BANK SURFACES. IF NO BANK SCOUR REPAIR IS REQUIRED THE STREAM BANK SHALL BE OVER-EXCAVATED TO A DEPTH SO THAT THE COMPLETED BRUSH MATTRESS IS EVEN WITH THE SURROUNDING STREAM BANK SURFACES.
- TOE PROTECTION, IF NECESSARY, SHALL BE AS SPECIFIED BY THE DESIGNER. SPECIFIC INFORMATION REGARDING TOE PROTECTION (SUCH AS LIVE FASCINE, COIR FIBER ROLL, ETC.) SHALL BE ADDED TO THE BRUSH MATTRESS DETAIL OR DETAILED SEPARATELY AND REFERENCED HEREIN.
- STAKES SHALL BE INSTALLED, PER THE SPECIFIED PATTERN AND SPACING, INTO THE FACE OF THE STREAM BANK. LIVE STAKES MAY BE USED IN LIEU OF STAKES FOR DEEPER ROOTING. TWINE (NOT WIRE) IS TO BE USED TO FASTEN THE BRUSH MATTRESS IF LIVE STAKES ARE USED. SPECIFIC INFORMATION REGARDING LIVE STAKES SHALL BE ADDED TO THE BRUSH MATTRESS DETAIL OR DETAILED SEPARATELY AND REFERENCED HEREIN.
- A SPECIFIED NUMBER OF CUTTINGS PER UNIT AREA SHOULD BE PLACED FLUSH AGAINST THE SOIL OF THE STREAM BANK, WITH THE CUTTINGS LAID IN BETWEEN THE STAKES.
- THE CUTTINGS SHALL BE HELD IN PLACE BY EITHER BIODEGRADABLE TWINE, UNGALVANIZED TIE-WIRE, OR UNGALVANIZED CHICKEN WIRE AS SPECIFIED BY THE DESIGNER. THE TWINE OR WIRE SHOULD BE RUN PERPENDICULAR TO THE CUTTINGS AND DIAGONALLY FROM STAKE TO STAKE AND TIED BY USE OF A CLOVE-HITCH. WHEN THIS IS COMPLETE, THE STAKES SHOULD BE DRIVEN INTO THE GROUND A LITTLE FURTHER TO COMPRESS THE CUTTINGS TO THE SLOPE FACE.
- THE BRUSH MATTRESS, STAKES, AND TWINE/WIRE SHALL BE COVERED WITH A LAYER OF SOIL AND LIGHTLY COMPACTED SO THAT THERE IS CONTACT BETWEEN CUTTINGS AND THE SOIL TO PROMOTE MORE RAPID GROWTH. ALL BUT THE OUTER BRANCHES OF THE BRUSH MATTRESS SHOULD BE COVERED WITH SOIL.
- THE PLAN VIEW ILLUSTRATES A PERPENDICULAR PERSPECTIVE OF EACH SURFACE DEPICTED IN THE CROSS SECTION. THERE IS NO FORESHORTENING OF THE STREAM BANK (OR ANY OTHER SLOPED SURFACE) IN THE PLAN VIEW.

THIS FIGURE IS ONLY MEANT TO DEFINE THE MINIMUM INFORMATION REQUIRED BY THE CITY OF CHARLOTTE TO BE INCLUDED IN A DETAIL FOR THIS TYPE OF TECHNIQUE. THIS FIGURE IS NOT MEANT TO REPRESENT A STANDARD DESIGN METHOD FOR THIS TYPE OF TECHNIQUE AND SHALL NOT BE USED AS SUCH.

**NOT TO SCALE**



**CHARLOTTE-MECKLENBURG  
STORM WATER SERVICES  
GENERIC DETAIL REQUIREMENTS**

**BRUSH MATTRESS**

DRAFT - NOT TO BE USED FOR CONSTRUCTION

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